Docket No. AUS9-2000-0628-US1 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Gregg et al.**	§	
	§	Group Art Unit: **2154**
Serial No. **09/692,351**	§	
	§	Examiner: **Siddiqi, Mohammad A.**
Filed: **October 19, 2000**	§	
	§	
For: **End Node Partitioning Using LMC for a System Area Network**	§	

Commissioner for Patents
P.O. Box 1450
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By: _____
For Amelia C. Turner

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on August 19, 2005.

The fees required under § 41.20(B)(2), and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation, as reflected in the Assignment recorded on October 19, 2000, at Reel 011221, Frame 0309.

RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1-23.

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: None.
2. Claims withdrawn from consideration but not canceled: None.
3. Claims pending: 1-23.
4. Claims allowed: None.
5. Claims rejected: 1-23.

C. CLAIMS ON APPEAL

The claims on appeal are: 1-23.

STATUS OF AMENDMENTS

There are no amendments after the Final Rejection that was mailed June 15, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

Applicants' independent claim 1 describes a method for routing data packets to multiple partitions within a single end node. The method includes assigning a range of local identification addresses (LIDs) to a channel adapter port in an end node. (Specification page 23, lines 10-12, and page 24, lines 8-18.) The method also includes assigning bits within the local identification addresses to specify which of several partitions within the end node is being addressed. (Specification page 24, lines 8-18.)

Applicants' independent claim 9 describes a computer program product in a computer readable medium for use in a data process system for routing data packets to multiple partitions within a single end node. The computer program product includes instructions for assigning a local identification address to a channel adapter port in an end node. (Specification page 23, lines 10-12, and page 24, lines 8-18.) The computer program product also includes instructions for assigning bits within the local identification address to a specific partition within the end node. (Specification page 24, lines 8-18.)

Applicants' independent claim 17 describes a system for routing data packets to multiple partitions within a single end node. The system includes means for assigning a local identification address (LID) to a channel adapter port in a network end node. (Specification page 23, lines 10-12, and page 24, lines 8-18.) The system also includes means for assigning lower order bits within the local identification addresses to a specific partition within the end node. (Specification page 24, lines 8-18.)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. GROUND OF REJECTION 1 (Claims 1-23)

Claims 1-23 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,694,361 issued to *Shah* in view of Official Notice.

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 1-23)

Claims 1-23 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,694,361 issued to *Shah* in view of Official Notice.

Applicants claim routing data packets to multiple partitions within a single end node. A range of local identification addresses (LIDs) are assigned to a channel adapter port in an end node. Bits are assigned within the local identification addresses to specify which of several partitions within the end node is being addressed.

Neither *Shah* nor Official Notice teaches (1) multiple partitions, (2) assigning bits within the local identification addresses, or (3) assigning bits to specify which of several partitions is being addressed. Therefore, the combination of *Shah* and Official Notice does not render Applicants' claims unpatentable.

Neither *Shah* nor Official Notice teaches multiple partitions. Therefore, the combination of *Shah* and Official Notice does not render Applicants' claims unpatentable.

In the independent claims, Applicants claim "routing data packets to multiple partitions within a single end node". *Shah* does not teach "routing data packets to multiple partitions within a single end node" because *Shah* does not teach multiple partitions.

The Examiner appears to believe that "multiple partitions" are analogous to a partition manager that assigns partitions keys as taught by *Shah* at column 7, lines 37-41. *Shah* teaches "Particular implementations of the subnet manager 604 may include many other services that are required in a subnet. Examples may include a partition manager that assigns partition keys to fabric agents; a name services to identify fabric agents; a path services that provides path information to fabric agents; and a device configuration manager that assigns fabric-attached I/O controllers to fabric hosts etc." Column 7, lines 34-42.

The statement that "examples may include a partition manager that assigns partition keys to fabric agents" is the only reference in *Shah* to a "partition". The Examiner is relying on this single statement to teach multiple partitions.

This statement does not teach multiple partitions, however. This statement describes a partition manager. A partition manager does not explicitly describe multiple partitions. A

partition manager could be used to manage a single partition. Therefore, a "partition manager" does not implicitly describe multiple partitions. Thus, a "partition manager" does not teach "multiple partitions".

The statement in *Shah*, "a partition manager that assigns partition keys", also describes partition keys. By teaching "partition keys", *Shah* does not teach multiple partitions, however. A single partition could be assigned all of the "partition keys" taught by *Shah*. No other reference is made to "partition keys" in *Shah*. "Partition keys" does not teach "multiple partitions".

Shah does not teach "multiple partitions" by teaching a partition manager. *Shah* does not teach "multiple partitions" by teaching partition keys. Therefore, *Shah* does not teach multiple partitions.

Because *Shah* does not teach multiple partitions, *Shah* also does not teach routing data packets to multiple partitions.

Applicants further claim these multiple partitions being within a single end node. *Shah* does not teach multiple partitions being in a single end node.

Shah does not teach routing data packets to multiple partitions within a single end node. Neither Official notice nor *Shah* teaches this feature. Therefore, the combination of *Shah* and Official Notice does not render Applicants' claims unpatentable.

Applicants claim assigning bits within the local identification addresses (LIDs) to specify which of several partitions within the end node is being addressed. Neither *Shah* nor Official Notice teaches assigning bits with the local identification addresses.

The Examiner stated that *Shah* teaches assigning a value within the LID to specify which of several partitions is being addressed. The Examiner refers to column 10, lines 49-54, as teaching assigning a value within a LID. This section of *Shah* teaches the subnet manager maintaining a tunable parameter called a "LID stride value". This parameter indicates the minimum separation between the LIDs assigned to different ports. "For example, if the LID stride value is 16, then each detected port is assigned a LID value such that the absolute difference between the LID values of any two ports is a multiple of 16. If four ports are detected on the fabric, the initial base LIDs assigned could be 1, 17, 33, and 40. LIDs that fall in between LID stride values are not initially assigned." Column 10, lines 49-55.

Applicants claim assigning bits within the LID itself. The LID stride value does not teach assigning bits in any way. The LID stride value does not teach assigning bits within the LID itself. The LID stride value is merely a difference between one LID and another. The difference between one LID and another is not the same thing as assigning bits within the LID itself. The LID stride value taught by *Shah* is not analogous to and does not teach assigning bits within the local identification addresses (LIDs) claimed by Applicants. Therefore, *Shah* does not teach assigning bits within the local identification addresses (LIDs).

The Examiner further states in the Final Action on page 6, second paragraph, that "a bit is represented as a "0" or a "1", and these are the binary value of the bit, value 16 represents 4 bits..." The Examiner referred to column 10, lines 45-54.

The Examiner appears to be arguing that assigning a value to a LID is the same as assigning a bit to specify a partition. These are not the same, however. Applicants claim assigning a bit to specify which one of several partitions is being addressed by a data packet. In this manner, a data packet received by the single end node can be routed to one of the various partitions that are included within the end node.

For example, a single end node may include a first partition and a second partition. The single end node is addressed using a particular LID. A first bit could be used within the particular LID to specify a first partition while a second bit could be used within the particular LID to specify a second partition. When the first bit is set in the particular LID, the data packet will be routed to the end node using the LID and will be routed to the first partition within single end node because the first bit is set. When the second bit is set in the particular LID, the data packet will be routed to the end node using the LID and will be routed to the second partition within single end node because the second bit is set. As shown by this example, assigning a particular value to a group of bits, such as assigning the value of 4 to a group of bits, is not the same as assigning bits to specify which of several partitions is being addressed.

Assigning a particular value to a bit or group of bits is not analogous to assigning bits to specify which partition is being addressed. Therefore, *Shah* does not teach "assigning bits within the local identification addresses to specify which of several partitions within the end node is being addressed" as claimed by Applicants.

The Examiner takes Official Notice of the concept of control masking. The combination of control masking and *Shah* does not teach Applicants' claims because the combination does not teach "assigning bits within the local identification addresses to specify which of several partitions within the end node is being addressed".

The Examiner states that *Shah* does not teach assigning bits within a LID but takes Official Notice that the concept of bit masking is well known. Applicants define "mask" on page 23, lines 7-8, as being "a pattern of bits used to accept or reject bit patterns in another set of data". A control mask does not teach assigning bits within local identification addresses (LIDs). A pattern of bits used to access or reject bit patterns does not teach assigning bits within local identification addresses to specify which of several partitions is being addressed.

Neither control masking nor *Shah* teaches assigning bits within local identification addresses. Neither control masking nor *Shah* teaches multiple partitions. Therefore, neither control masking nor *Shah* teaches assigning bits within a local identification addresses to specify which of several partitions is being addressed.

Neither *Shah* nor Official Notice teaches assigning bits with the local identification addresses. Therefore, the combination of *Shah* and Official Notice does not render Applicants' claims unpatentable.

Applicants claim assigning bits to specify which of several partitions within the end node is being addressed. Neither *Shah* nor Official Notice teaches assigning bits to specify which of several partitions within the end node is being addressed.

The Examiner refers to column 8, lines 42-51, as teaching each port being uniquely identified. Applicants claim assigning bits within the local identification addresses to specify which of several partitions within the end node is being addressed. The Examiner refers to a section of *Shah* that teaches each port being uniquely identified. This section of *Shah* does not teach bits within a LID being used to specify which partition is being addressed. This section of *Shah* teaches uniquely identifying ports. *Shah* teaches using the LID to specify a port, not a partition. *Shah* does not teach using bits within a LID to specify which one of several partitions is being addressed.

Applicants claim "to specify which of several partitions". Applicants do not claim ports. A port is not a partition. *Shah* does not describe multiple partitions. *Shah* does not describe

Neither *Shah* nor Official Notice teaches assigning bits to specify which of several partitions within the end node is being addressed. Therefore, the combination of *Shah* and Official Notice does not render Applicants' claims unpatentable.

The remaining claims depend from the independent claims discussed above and are believed to be patentable for the reasons given above.

B. CONCLUSION

The combination of *Shah* and the Official Notice does not render Applicants' claims unpatentable because the combination does not describe, teach, or suggest (1) multiple partitions, (2) assigning bits within tshe local identification addresses, or (3) assigning bits to specify which of several partitions is being addressed. The combination of *Shah* and Official Notice does not render Applicants' claims unpatentable. Therefore, Applicants' claims are believed to be patentable over the cited prior art.

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CLAIMS APPENDIX

The text of the claims involved in the appeal are:

1. A method for routing data packets to multiple partitions within a single end node, comprising:

assigning a range of local identification addresses (LIDs) to a channel adapter port in an end node; and

assigning bits within the local identification addresses to specify which of several partitions within the end node is being addressed.

2. The method of claim 1, wherein the bits are lower order bits.

3. The method according to claim 1, wherein the channel adapter port is connected to a system area network.

4. The method according to claim 1, wherein:

the network contains two raised to the N power end nodes, switches, and routers; and

the number of bits in a local identification address equals N.

5. The method according to claim 2, wherein the lower order bits assigned to partitions are designated by a local identification mask control (LMC) field.

6. The method according to claim 5, wherein the local identification mask control can be any number of bits.

7. The method according to claim 5, wherein a number of lower order bits assigned to addressing within a port is up to two raised to the local identification mask control power.

8. The method according to claim 7, wherein the different local identification addresses of a port identify different partitions within the end node.

9. A computer program product in a computer readable medium for use in a data process system for routing data packets to multiple partitions within a single end node, the computer program product comprising:

instructions for assigning a local identification address to a channel adapter port in an end node; and

instructions for assigning bits within the local identification address to a specific partition within the end node.

10. The computer program product of claim 9, wherein the bits are lower order bits.

11. The computer program product according to claim 9, further comprising instructions for connecting the channel adapter port to a system area network.

12. The computer program product according to claim 9, wherein:

if the network contains two raised to the N power end nodes, switches, and routers;

the number of bits in a local identification address equals N.

13. The computer program product according to claim 10, wherein the lower order bits assigned to partitions are designated by a local identification mask control (LMC) field.

14. The computer program product according to claim 13, wherein the local identification mask control can be any number of bits.

15. The computer program product according to claim 13, wherein the number of lower order bits assigned to addressing within a port is up to two raised to the local identification mask control power.

16. The computer program product according to claim 15, wherein the different local identification addresses of a port identify different partitions within the end node.

17. A system for routing data packets to multiple partitions within a single end node, comprising:

means for assigning a local identification address (LID) to a channel adapter port in a network end node; and

means for assigning lower order bits within the local identification addresses to a specific partition within the end node.

18. The system according to claim 17, wherein the channel adapter port is connected to a system area network.

19. The method according to claim 17, wherein:

the network contains two raised to the N power end nodes, switches, and routers; and

the number of bits in a local identification address equals N.

20. The system according to claim 17, wherein the lower order bits assigned to partitions are designated by a local identification mask control (LMC) field.

21. The method according to claim 20, wherein the LMC can be any number of bits.

22. The system according to claim 20, wherein the number of lower order bits assign to addressing within a port is up to two raised to the local identification mask control power.

23. The system according to claim 22, wherein the different local identifier addresses of a port identify different partitions within the end node.

EVIDENCE APPENDIX

There is no evidence to be presented.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.